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Mortality and Sickness of the Bombay Army, 1848-9.

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[Read before the Statistical Society of London, 15th March, 1852.]

THE following is a return of the health of the Bombay Army for the year 1848-9.

Sickness and Mortality of the Troops, European and Native, under the Government of Bombay, during the year 1848-49.

Health of Troops in 1848-9 at						
	Europeans and Natives.	Average Strength during the Year.	Number Treated.	Number Died.	Ratio per Cent. to Strength of	
					Treated.	Died.
Bombay	European....	686·08	1,518	38	221·28	5·53
	Native	5709·	4,420	37	77·421	0·648
Aden	European....	487·	864	12	177·41	2·46
	Native .....	.....	.....	.....	.....	.....
Kirkee	European....	744·	1,684	9	226·340	1·210
	Native .....	.....	.....	.....	.....	.....
Poonah	European....	1818·5	4,450	34	244·77	1·87
	Native	2226·500	1,665	17	74·797	0·763
Ahmednugger	European....	354·333	992	6	279·962	1·693
	Native	1499·833	1,549	10	103·335	0·666
Sholapore	European....	99·	219	2	221·21	2·02
	Native	1406·	1,401	3	99·644	0·213
Kolapoor	European....	99·83	323	3	326·26	3·03
	Native	1858·	1,860	13	100·107	0·699
Belgaum	European....	1156·	1,790	19	154·844	1·64
	Native	1891·83	836	14	44·209	0·740
Deesa	European....	1285·66	2,114	36	164·513	2·801
	Native	1251·58	1,225	8	97·921	0·639
Kurrachee	European....	1944·91	3,120	59	160·49	3·03
	Native	1678·16	2,285	37	136·174	2·205
Bhooj	European....	102·14	78	.....	76·47	.....
	Native	890·	767	7	86·179	0·786
Peshawur and Mooltan	European....	2222·6	1,842	31	82·89	1·39
	Native	5917·	3,675	81	62·109	1·368
Total Average					1848-9 { European....	2·263
					Native	0·933
					1847.... { European....	2·781
					Native	1·076

As a whole, this report of the Bombay Army is the most satisfactory which has ever been received, particularly in relation to the European portion of it; and, in regard to the native soldiery, in the preceding twenty-four years there are only three years in which the mortality was less than in 1848-9. At some of the stations, the mortality was less than it usually is within the United Kingdom; for instance, at Kirkee, in the

Deccan, a regiment of European dragoons, 744 strong, lost only 9 men, or 1·210 per cent. At Peshawur and Mooltan, 2,222 Europeans in the field lost only 31 men, or 1·39 per cent. At Belgaum, in the Deccan, 1,156 Europeans lost 19 men, or 1·64 per cent. At Ahmednugger, 354 Europeans lost 6 men, or 1·69 per cent. At Poona, 1,818 Europeans lost 34 men, or 1·87 per cent. Even in that confined and hitherto-dreaded locality, the fortress of Aden, on the coast of Arabia, 487 Europeans lost only 12 men, or 2·46 per cent. The greatest mortality, with the exception of Bombay, occurred in the Kurrachee cantonment at the mouth of the Indus, in Scinde, where 1,945 Europeans lost, in one year, 59 men, or 3·03 per cent. Bombay Island, as it always has done, preserves its unenviable pre-eminence in its loss of European life amongst the troops. In 1848-9, 686 Europeans lost 38 men, or 5·53 per cent.; and yet this constant mortality amongst European troops can scarcely be attributed to the climate of Bombay, for the European community do not suffer in the same ratio, and several individuals, within my personal knowledge, have kept their health uninterruptedly for many years. The native population, also, as far as the limited record of deaths (which are annexed) permits us to judge, for the years 1848-9-50, lose annually only 2½ per cent., inclusive of cholera, the population of the island being about 525,000. I cannot, therefore, but attribute this disproportionate mortality amongst the European troops to adventitious circumstances, to defective barrack accommodation and ventilation, or to the nature of the soil upon which the barracks on Colaba are built, but chiefly to intemperance. The mean annual deaths of the Europeans of the Bombay army for twenty years, from 1825 to 1844, was only 5·078 per cent., inclusive of losses from cholera, or half per cent. less than the loss in Bombay for 1848-9.

The average mortality amongst the native troops (0·933) is less than the average of twenty years (1·291 per cent.), from 1825 to 1844; and at every station, with the exception of two, it has not amounted to 1 soldier in 100 per annum. Indeed, at Sholapoor, in the Deccan, two regiments, 1,406 strong, lost only 3 men, or 1 in 468. And, in a whole year, to have only 1 death out of 468 men of all ages, from 16 to 60 or 70, is most remarkable. In Bombay, so fatal to Europeans, where 5·52 per cent. died, 5,709 native troops lost only 37 men, or 0·648 per cent., or 1 death in 157 men. The climate least favourable to the native troops of the Bombay army, as I have had reason to show on a former occasion, is that of Scinde, on the banks of the Indus. At Kurrachee, the mortality, although still less than that of Great Britain, is more than double that of the cis-Scinde stations: 1,673 sepoy lost 37 of their number, or 2·205 per cent.; and in other parts of Scinde and the Punjab, the mortality was *comparatively* great, as 5,917 sepoy lost 81 men, or 1·368 per cent. If we look to the sickness of the troops, in contradistinction to the mortality, as indicated by the admissions into hospital, we shall find that sickness and mortality do not proceed *pari passu*. For instance, the greatest* number of admissions of Europeans (279·962 per cent.) occurred at Ahmednugger, so that each soldier went nearly three times into hos-

* Kolapoor is an exceptional case, and is not a proper criterion, from the small number of Europeans.

pital during the year, while only 1·693 per cent. of deaths took place. The next greatest number of admissions is at Poona, where 244·77 of the men went into hospital, while the deaths were only 1·87 per cent. As a contrast to this, at Bombay, 221 per cent. of the European troops passed through the hospital, while the deaths were $5\frac{1}{2}$ per cent. Even at Kirkee, where little more than 1 trooper in 100 died, 226 per cent. of the men entered the hospital, the smallest number of admissions (82·89 per cent.) took place while the European troops were in the field at Peshawur and Mooltan; confirming my early opinions, from personal knowledge and experience, that European troops in India are always most healthy, even in the hot season, when marching. The influx of Europeans into hospital at Ahmednugger may be explained by the fact, that it is the depôt for recruits for the artillery. The maximum of entrances of natives into hospital was, at Kurrachee, 136·174 per cent., and the next greatest number at Ahmednugger, 103·335 per cent.; but it is not a usual thing for every native soldier to enter the hospital once in the year. At Belgaum, there was only 1 admission to $2\frac{1}{4}$ men. Like the Europeans, the native troops, for the most part, may be said to be less afflicted with sickness while in the field than in cantonments.

That this remarkable health of the native troops is not limited to the Bombay army, I have an opportunity of testifying, from official returns of the mortality in Scindiah's Contingent, from the 1st April, 1849, to 1st April, 1850, which are annexed.

The 1st company of artillery (natives), 155 strong, and the 5th company, 68 strong, did not lose a man between them; and the 4th company, 103 strong, lost only 1 man. The 6th regiment of infantry, 765 strong, lost only 1 soldier, and the small mortality in other regiments was equally remarkable. The greatest mortality, indeed, of the whole force which occurred in the 3rd company of artillery, was only 1·25 per cent. The whole force of 6,992 men lost only 50, or 0·71 per cent., or 1 in 119 men.

On the present, as on former occasions, I have dwelt strongly upon the remarkable healthiness of the native troops, as indicative by analogy, in the absence of returns, of the value of native life in India; and I avow that my object has been to excite the attention of insurance societies in England to the probable pecuniary advantages which would result from the establishment of insurance offices in India, for giving that vast body of native public servants, whose means of providing for their families are dependent upon their own lives, the opportunity of securing something for their widows and children after their deaths. To give them such opportunities, would be to confer a blessing upon a highly respectable and very large class of the native community.

SCINDIAH'S CONTINGENT.

TABLE Showing the Relative Number of Sick and Deaths of the different Companies of Artillery and Regiments of Scindiah's Contingent, together with the Ratio per Cent. of Sick and Deaths during Twelve Months, from 1st April, 1849, to 1st April, 1850.

	Total Strength during the 12 Months.	Average Monthly Strength.	Remaining.	Admitted into Hospital during 12 Months.	Total Sick during 12 Months.	Discharged during 12 Months.	On Sick leave.	Abandoned.	Transferred.	Died.	Remaining.	Per Cent. of Sick of Strength.	Per Cent. of Deaths to Strength.	Per Cent. of Deaths to Sick.	Names of Medical Officers in Charge.
1st Company of Artillery	1,862	155 $\frac{1}{2}$	2	187	139	195	..	..	3	..	1	7.46	..	..	H. M. Macpherson and P. O'Brien.
2nd " ..	2,027	168 $\frac{1}{2}$	1	89	90	83	..	..	..	3	4	6.44	1.78	3.33	{ W. M. Norris, G.M., C.B., W. J. Loch, P. O'Brien, and J. H. Littler, M.D.
3rd " ..	1,928	160 $\frac{1}{2}$	..	123	123	116	..	..	2	2	3	6.39	1.25	1.63	{ P. O'Brien and H. M. Macpherson.
4th " ..	1,244	103 $\frac{1}{2}$	..	66	67	61	..	..	3	1	2	5.37	0.97	1.49	{ A. W. Crozier and W. J. Loch.
5th " ..	821	68 $\frac{1}{2}$	3	13	16	15	..	..	..	..	1	1.82	..	..	{ A. H. Cheek, P. O'Brien, and W. J. Loch.
1st Cavalry Regiment	4,616	384 $\frac{1}{2}$	4	239	243	231	..	..	3	4	5	5.26	1.04	1.84	{ W. J. Loch.
2nd " ..	5,451	454 $\frac{1}{2}$	16	657	673	641	12	..	..	3	17	12.3	0.66	0.46	{ H. M. Macpherson, W. M. Norris, G.M., C.B., and James Sheetz, G.M., C.B.
1st, or Grenadier Regiment ..	9,722	810 $\frac{1}{2}$	27	650	677	642	4	..	4	6	21	6.96	0.74	0.88	{ A. H. Cheek, W. J. Loch, W. M. Norris, G.M., C.B., and James Sheetz, G.M., C.B.
2nd Infantry Regiment	10,448	870 $\frac{1}{2}$	22	575	597	563	11	..	..	8	15	5.67	0.91	1.34	{ Norris, G.M., C.B., and James Sheetz, G.M., C.B.
3rd " ..	9,959	829 $\frac{1}{2}$	10	616	626	584	2	1	21	6	12	6.2	0.72	0.95	{ Jas. Sheetz, G.M., C.B., W. M. Norris, G.M., C.B., and H. M. Macpherson.
4th " ..	10,322	866 $\frac{1}{2}$	29	785	814	780	7	..	..	7	20	7.53	0.81	0.85	{ P. O'Brien and J. H. Littler, M.D.
5th " ..	7,243	603 $\frac{1}{2}$	4	541	545	527	2	..	..	6	10	7.58	0.99	1.1	{ F. Moore, M.D.
6th " ..	9,184	765 $\frac{1}{2}$	19	574	593	567	8	..	4	1	13	6.44	0.13	0.16	{ A. W. Crozier and J. H. Littler, M.D.
7th " ..	9,007	750 $\frac{1}{2}$	18	479	497	480	5	..	1	3	8	5.51	0.39	0.6	{ J. H. Littler, M.D., and A. W. Crozier.
		6892								50			0.71		

TABLE showing the Ratio per Cent. of Sick to Strength of the different Companies of Artillery and Regiments, from 1st April, 1849, to 1st April, 1850, arranged agreeably to the rate of health.

	Ratio per Cent. of Sick to Strength.
5th Company of Artillery	1·82
2nd " " "	4·44
1st Cavalry Regiment.....	5·26
4th Company of Artillery	5·37
7th Infantry Regiment	5·51
2nd Infantry Regiment	5·67
3rd Infantry Regiment	6·02
3rd Company of Artillery	6·39
6th Infantry Regiment	6·44
1st or Grenadier Regiment.....	6·96
1st Company of Artillery	7·46
5th Infantry Regiment	7·53
4th Infantry Regiment	7·88
2nd Cavalry Regiment	12·03

TABLE showing the Strength and Relative Number of Sick and Deaths at the different Stations of Scindiah's Contingent, together with the Ratio per Cent. of Sick and Deaths, for Twelve Months, from 1st April, 1849, to 1st April, 1850, arranged agreeably to the Rate of Health.

	Total Strength during the Year.* Native Officers, Non-Commis- sioned Officers, Rank and File.	Per Cent. of Sick to Strength.	Per Cent. of Deaths to Sick.	Per Cent. of Deaths to Total Strength.
Mehonah	4,384	5·42	0·43	0·25
Seepree	6,616	5·77	0·54	0·34
Poonah	4,092	6·33	0·77	0·58
Gwalior	37,645	6·35	1·17	0·89
Lullutpore	8,143	7·34	1·00	0·88
Augur.....	11,352	8·04	0·43	0·42
Goonah	1,110	10·63	....	....
Boorhunpore	3,733	11·38	0·94	1·28
Munderore	561	15·33	....	....

* These numbers would appear to be the annual accumulation of the monthly strength.

Return of the Mortality for the Town and Islands of Bombay and Colaba for the Year 1848.

	Christians.			Jews.			Mahomedans.			Parsees.			Hindoos not Eating Flesh.			Hindoos Eating Flesh.			Chinese.			Total.			Grand Total.
	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	Natural.	Cholera.	Violent.	
1848.																									
January ....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	915	13	6	934
February ...	49	..	..	..	..	..	131	1	2	..	..	..	..	1	..	290	7	3	..	..	..	1,037	11	9	1,057
March	76	..	2	5	..	1	279	1	..	..	..	..	115	1	..	577	5	..	..	..	..	1,132	7	3	1,142
April	60	1	3	4	..	..	299	3	2	73	2	..	112	1	..	590	9	6	..	..	..	1,138	16	11	1,155
May	35	..	1	1	..	..	246	..	..	67	..	..	93	..	..	530	9	2	..	..	..	972	9	3	984
June	57	..	1	4	..	..	207	1	..	61	..	..	67	1	1	416	7	3	..	..	..	812	10	5	827
July	53	..	2	1	..	..	208	1	1	51	..	..	93	1	1	433	3	3	..	..	..	839	5	7	851
August	44	..	..	6	..	..	170	..	..	47	..	..	104	1	..	401	1	8	..	..	..	772	2	8	782
September ..	54	..	..	3	..	..	172	..	2	50	1	..	77	..	1	404	..	7	..	..	..	760	1	10	771
October	47	..	1	1	..	..	177	..	1	69	..	2	86	..	1	455	..	4	..	..	..	835	..	9	844
November...	69	..	4	5	..	..	164	1	1	63	..	1	90	..	3	396	4	7	1	..	..	788	5	16	809
December...	78	..	..	4	..	..	215	..	3	70	..	..	92	..	..	521	..	10	..	..	..	980	..	13	993
Total	622	1	14	34	..	1	2,268	8	12	678	3	3	986	7	6	5,003	45	53	1	..	..	10,970	79	100	11,149

Return of the Mortality for the Town and Islands of Bombay and Colaba for the Year 1849.

	Europeans.			Indo-Briton and Portuguese.			Native Christians and Jews.			Musulmans.			Parsees.			Jains and all Hindoos.			Others and unknown Castes.			Total.			Grand Total.
	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	
1849.																									
January .....	...	...	...	...	...	...	69	...	2	221	...	1	61	...	1	588	...	5	...	...	...	939	...	9	948
February .....	...	...	...	...	...	...	59	...	1	189	...	2	47	...	...	517	...	5	...	...	...	812	...	8	820
March .....	...	...	...	...	...	...	73	...	2	219	...	2	55	...	1	589	...	9	1	...	...	937	1	14	952
April .....	...	...	...	...	...	...	48	...	1	206	2	...	65	...	...	617	2	8	...	...	...	936	4	9	949
May .....	...	...	...	...	...	...	71	...	1	211	...	1	83	...	...	581	...	3	...	...	...	946	...	5	951
June .....	...	...	...	...	...	...	70	...	1	178	...	1	56	...	1	498	...	10	...	...	...	802	...	13	815
July .....	...	...	...	...	...	...	64	...	2	189	...	1	69	...	1	588	...	5	1	...	...	911	...	9	920
August .....	...	...	...	...	...	...	53	26	1	218	33	1	65	...	1	684	68	4	...	...	...	970	127	7	1,104
September*	10	18	...	8	10	...	32	20	1	201	138	1	60	17	2	501	490	10	34	15	2	846	708	16	1,570
October	12	4	1	5	...	...	35	18	...	181	70	3	58	9	...	535	243	12	3	...	2	829	844	18	1,191
November	13	2	...	6	...	1	33	12	1	229	37	1	53	6	...	525	204	6	2	...	...	861	271	9	1,141
December	40	12	...	5	3	...	49	27	...	218	119	3	70	26	...	634	465	6	40	21	1	1,056	673	10	1,739
Total in 1849	75	36	1	24	13	1	656	103	13	2,460	409	17	742	53	7	6,807	1,473	83	81	36	5	10,845	2,138	127	13,100
Total in 1848 .....	...	...	...	...	...	...	656	1	15	2,368	8	12	678	3	3	7,367	67	70	1	...	...	10,970	79	100	11,149
Increase	75	36	1	24	13	1	...	102	...	192	401	5	64	55	4	...	1,406	13	80	36	5	...	2,049	27	1,951
Decrease .....	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	560	...	...	...	...	...	125	...	...	...

* Europeans shown separately from September.

Return of the Mortality for the Town and Islands of Bombay and Colaba for the Year 1850.

	Europeans.			Indo-Briton and Indo-Portuguese.			Native Christians and Jews.			Musulmans.			Parsees.			Jains and all Hindoos.			Others and unknown Castes.			Total.			Grand Total.
	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	Natural.	Epidemic.	Violent.	
1849.																									
January	35	3	1	10	2	..	43	6	1	216	22	1	55	17	..	598	82	3	..	..	1	957	132	7	1,096
February	21	1	..	13	..	..	34	1	..	231	11	..	56	3	..	626	39	4	4	..	..	985	55	4	1,044
March	22	..	..	5	..	..	55	19	..	294	38	2	71	16	2	704	210	1	2	..	2	1,153	283	7	1,443
April	16	11	..	2	1	..	44	26	1	314	105	1	79	13	..	802	445	8	1	1	..	1,258	602	10	1,870
May	5	..	..	2	..	..	42	19	..	284	36	1	92	3	..	838	237	9	1	..	1	1,264	295	11	1,570
June	18	4	1	1	..	..	53	14	..	255	38	2	80	6	..	727	169	3	..	..	1	1,134	251	7	1,392
July	15	21	..	3	..	..	41	27	4	250	65	1	67	29	..	666	184	4	1	..	..	1,043	326	9	1,378
August	16	3	..	3	..	..	60	34	..	230	110	1	70	12	3	619	191	3	..	..	1	998	350	8	1,356
September	7	5	..	4	..	..	38	9	..	191	36	1	60	10	1	556	75	9	..	..	..	856	135	11	1,003
October	19	1	1	..	..	..	38	1	1	175	13	1	40	..	1	534	35	6	1	..	..	807	50	10	867
November	22	..	1	1	..	..	41	4	..	220	16	3	62	..	..	591	35	14	4	3	1	941	58	19	1,018
December	10	4	1	1	..	..	42	17	..	236	109	4	54	17	3	595	353	7	1	..	2	939	500	17	1,456
Total in 1850...	206	53	5	45	3	..	531	177	7	2,896	619	18	786	136	10	7,856	2,055	71	15	4	9	12,335	3,037	120	15,492
Total in 1849 ..	75	36	1	24	13	1	656	103	13	2,460	409	17	742	58	7	6,807	1,473	83	81	36	5	10,845	2,128	127	13,100
Increase	131	17	4	21	..	..	..	74	..	436	210	1	44	68	3	1,049	582	..	..	..	4	1,490	909	..	2,392
Decrease .....	..	..	..	..	..	1	125	..	6	..	..	..	..	..	..	..	..	12	66	32	..	..	..	7	..